

DATE: 10/21/2009

INVITATION TO BID
THIS IS NOT AN ORDER

Page: 1

BID NO.: 50-00095662
SOLICITATION #B2009000259

JEFFERSON PARISH
PURCHASING DEPARTMENT
P.O. BOX 9
GRETNA, LA. 70054-0009
504-364-2678

VENDOR:

BUYER: S. Vasquez

BIDS WILL BE RECEIVED IN THE PURCHASING DEPARTMENT, SUITE 4400, JEFFERSON PARISH GENERAL GOVERNMENT BUILDING, 200 DERBIGNY STREET, GRETNA, LA 70053 UNTIL 2:00 PM, 11/24/2009 AND PUBLICLY OPENED UPON COMPLETION OF ADMINISTRATIVE TASKS.

LATE BIDS WILL NOT BE ACCEPTED

NOTE: ONLY BIDS WRITTEN IN INK OR TYPEWRITTEN, AND PROPERLY SIGNED BY A MEMBER OF THE FIRM OR AUTHORIZED REPRESENTATIVE, WILL BE ACCEPTED. PENCIL AND/OR PHOTOSTATIC FIGURES OR SIGNATURES DISQUALIFY BID.

INSTRUCTIONS FOR BIDDERS AND GENERAL CONDITIONS
THE FOLLOWING INSTRUCTIONS APPLY TO ALL BIDS

All bids submitted are subject to these instructions and general conditions and any special conditions and specifications contained herein, all of which are made part of this bid proposal reference. THIS BID PACKAGE MUST BE RETURNED IN ITS ENTIRETY.

Questions on this bid are to be faxed to (504) 364-2693 no later than FIVE (5) working days prior to bid opening. Bid numbers should be mentioned in all requests.

The purpose and intention of this invitation to bid is to afford all suppliers an equal opportunity to bid on all construction, maintenance, repair, operating supplies and/or equipment listed in this bid proposal. JEFFERSON PARISH will accept one bid only from each vendor. Items bid must meet or exceed specifications.

JEFFERSON PARISH will accept one price for each item unless otherwise indicated. Two or more prices for one item will result in bid rejection.

If the bid exceeds \$20,000.00 and the bidder is an agency, corporation, partnership, or other legal entity, the president, vice-president, secretary/treasurer, or an authorized agent, shall sign the proposal, and satisfactory evidence of the authority of the person signing for the agency, corporation, partnership, or other legal entity shall be attached to the proposal.

AWARD OF CONTRACT: JEFFERSON PARISH reserves the right to award contracts or place orders on a lump sum or individual item basis, or such combination, as shall in its judgment be in the best interest of JEFFERSON PARISH. Every contract or order shall be awarded to the LOWEST RESPONSIBLE BIDDER, taking into consideration the CONFORMITY WITH THE SPECIFICATIONS and the DELIVERY AND/OR COMPLETION DATE.

Preference is hereby given to materials, supplies, and provisions produced, manufactured or grown in Louisiana, quality being equal to articles offered by competitors outside the state. "LSA-R.S.38:2251-2261"

USE OF BRAND NAMES AND STOCK NUMBERS: Where brand names and stock numbers are specified, it is for the purpose of establishing certain minimum standards of quality. Bids may be submitted for products of equal quality, provided brand names and stock numbers are specified. Complete product data may be required prior to award.

CANCELLATION OF CONTRACT: JEFFERSON PARISH reserves the right to cancel all or any part if not shipped promptly. No charges will be allowed for parking or cartage unless specified in quotation. The order must not be filled at a higher price than quoted. JEFFERSON PARISH reserves the right to cancel any contract at anytime and for any reason by issuing a THIRTY (30) day written notice to the contractor.

For good cause and as consideration for executing a contract with Jefferson Parish, vendor conveys, sells, assigns and transfers to Jefferson Parish or its assigns all rights, title and interest in and to all causes of action it may now or hereafter acquire under the antitrust laws of the United States and the State of Louisiana, relating to the particular good or services purchased or acquired by Jefferson Parish.

Visit our website at WWW.JEFFPARISH.NET/BIDS

INSTRUCTIONS FOR BIDDERS AND GENERAL CONDITIONS

JEFFERSON PARISH requires a firm price. Quoted price will remain firm until _____

PRICES: Jefferson Parish is exempt from paying sales tax under LSA-RS 47:301 (8)(c). All prices for purchases by Jefferson Parish of supplies and materials shall be quoted in the unit measure specified and unless otherwise specified, shall be exclusive of state and Parish taxes. If a contractor is to act as Purchasing Agent for tax-exempt purposes, the Parish shall specifically state so within this bid specification. All quotations shall be based on F.O.B. Agency warehouse or job site, anywhere within the Parish as designated by the Purchasing Department.

Quantities listed are for bidding purposes only. Actual requirements may be more or less than quantities listed.

Bidders are not to exclude from participation in, deny the benefits of, or subject to discrimination under any program or activity, any person in the United States on the grounds of race, color, national origin, or sex; nor discriminate on the basis of age under the Age Discrimination Act of 1975, or with respect to an otherwise qualified handicapped individual as provided in Section 504 of the Rehabilitation Act of 1973, or on the basis of religion, except that any exemption from such prohibition against discrimination on the basis of religion as provided in the Civil Rights Act of 1964, or Title VI and VII of the Act of April 11, 1968, shall also apply. This assurance includes compliance with the administrative requirements of the Revenue Sharing final handicapped discrimination provisions contained in Section 51.55 (c), (d), (e), and (k)(5) of the Regulations. New construction or renovation projects must comply with Section 504 of the 1973 Rehabilitation Act, as amended, in accordance with the American National Standard Institute's specifications (ANSI A117.1-1961).

RESPONSE TO INVITATION: If your company is unable to bid on this request, please state your reason on bid form, and return to this office before bid opening date. Failure to do so may result in the removal of your company from Jefferson Parish's vendors list.

The general specifications for construction projects and the purchase of materials, services and/or supplies are those adopted by the JEFFERSON PARISH Council by Resolution No. 105529 or 105530 dated 5/17/06. The general conditions adopted by this resolution shall be considered as much a part of this document as if they were written wholly herein. A copy may be obtained from the Office of the Parish Clerk, Suite 6700, Jefferson Parish General Government Building, 200 Derbigny Street, Gretna, LA 70053.

POSTING OF BIDS: Non-Advertised bids will be posted on bulletin board in Suite 4400, Jefferson Parish General Government Building, Gretna, LA, for a period of Five (5) working days after opening date.

Advertised bids will be tabulated and a copy forwarded to each responsive bidder.

ADDITIONAL REQUIREMENTS FOR THIS BID

PLEASE MATCH THE NUMBERS PRINTED IN THIS BOX WITH THE
CORRESPONDING INSTRUCTIONS BELOW.

1,2,3,4,5,6,7,8,9,10,11,16

1. All bidders are invited to attend the pre-bid conference. Failure to attend the pre-bid conference shall not relieve the bidder of responsibility for information discussed at the conference. This conference is held to allow questions to be answered and inspect the site with owner's representative, etc. Failure to attend the pre-bid conference and inspection does not relieve the successful bidder from the necessity of furnishing materials or performing any work that may be required to complete the work in accordance with the specification (with no additional cost to the owner).
2. Contractor must hold current applicable JEFFERSON PARISH licenses with the Department of Inspection and Code Enforcement. Contractor shall obtain any and all permits required by the JEFFERSON PARISH Department of Inspection and Code Enforcement. The contractor shall be responsible for the payment of these permits. All permits must be obtained prior to the start of the project.
3. A Louisiana state contractor's license may be required in accordance with LSA-R.S. 37:2150 et seq.

INSTRUCTIONS FOR BIDDERS AND GENERAL CONDITIONS

4. It is the bidder's responsibility to visit the job site and evaluate the job before submitting a bid.
5. Job site must be clean and free of all litter and debris daily and upon completion of the contract. Passageways must be kept clean and free of material, equipment, and debris at all times. Flammable material must be removed from the job site daily because storage will not be permitted on the premises. Precautions must be exercised at all times to safeguard the welfare of JEFFERSON PARISH and the general public.
6. All awards in excess of \$5,000.00 for the construction, alteration, or repair of any public works will be reduced to a formal contract which shall be recorded at the contractor's expense. A price list of recordation costs may be obtained from the Clerk of Court and Ex-officio Recorder of Mortgages for the Parish of Jefferson. All awards in excess of \$25,000.00 reduced to formal contract will require a performance bond.
7. A performance bond will be required for this bid. The amount of the bond will be 100% of the contract price unless otherwise indicated in the specifications. Performance bond shall be supplied at the signing of the contract.
8. Please indicate if you have insurance: YES _____ NO _____
Successful bidder will be required to furnish proof of insurance to this office.
Successful bidder will be required to furnish Federal I.D. Number.
9. Minimum insurance requirements for this bid are as indicated on the attached sheet.
10. Each bid must be accompanied by a cashier's check, certified check, money order, or surety bid bond in the amount of 5% of the bid.
11. Affidavit required to be submitted with bids on all solicitations for construction, alteration or demolition of public building or project. (LSA-R.S. 38:2224)
12. This is a requirements contract to be provided on an as needed basis.
13. All prices must be held firm unless an escalation provision is requested in this bid. Jefferson Parish will allow one escalation during the term of the contract, which may not exceed the U.S. Bureau of Labor Statistics National Index for all Urban Consumers, unadjusted 12 month figure. The most recently published figure issued at the time an adjustment is requested will be used. A request must be made in writing by the vendor, and the escalation will only be applied to purchases made after the request is made.

Are you requesting an escalation provision?

YES _____ NO _____

MAXIMUM ESCALATION PERCENTAGE REQUESTED _____%

INITIAL BID PRICES WILL REMAIN FIRM THROUGH THE DATE OF _____.

For the purposes of comparison of bids when an escalation provision is requested, Jefferson Parish will apply the maximum escalation percentage quoted by the bidder to the period to which it is applied in the bid. The initial price and the escalation will be used to calculate the total bid price. It will be assumed, for comparison of prices only, that an equal amount of material or labor is purchased each month throughout the entire contract.

14. In the event that the successful bidder cannot furnish a specific item or material and labor in the required time, JEFFERSON PARISH may purchase on an emergency basis from the next lowest bidder, or available source, until such time as the successful bidder has notified the PARISH in writing that his stock or labor capability has been replenished. The difference in price will be charged against the successful bidder of this contract, and evidence of purchases and price will be provided.
15. Vendor will be required to submit to the chief buyer of the JEFFERSON PARISH Purchasing Department a quarterly usage report by item of all items listed on this proposal.
16. Freight charges should be included in total cost when quoting. If not quoted FOB DELIVERED, freight must be quoted as a separate item. Bid may be disqualified if not quoted FOB DELIVERED or if freight charges are not indicated on bid form.

INSTRUCTIONS FOR BIDDERS AND GENERAL CONDITIONS

DELIVERY: FOB JEFFERSON PARISH

INDICATE DELIVERY DATE ON EQUIPMENT AND SUPPLIES _____

INDICATE STARTING TIME (IN DAYS) FOR CONSTRUCTION WORK _____

INDICATE COMPLETION TIME (IN DAYS) FOR CONSTRUCTION WORK _____

LOUISIANA CONTRACTOR'S LICENSE NO.: (if applicable) _____

*** ALL BIDDERS MUST COMPLETE SECTION BELOW ***	
FIRM NAME:	
SIGNATURE: (Must be signed here)	TITLE:
PRINT OR TYPE NAME:	
ADDRESS:	
CITY, STATE:	ZIP:
TELEPHONE: ()	FAX: ()
EMAIL ADDRESS:	

TOTAL PRICE OF ALL BID ITEMS: \$ _____

THIS BID MUST BE SIGNED BY AN AUTHORIZED REPRESENTATIVE OF THE COMPANY/FIRM FOR BID TO BE VALID. BID PACKAGE, INCLUDING INSTRUCTIONS AND SPECIFICATIONS, MUST BE RETURNED IN ITS ENTIRETY FOR BID TO BE VALID. SIGNING INDICATES YOU HAVE READ AND COMPLY WITH THE INSTRUCTIONS AND CONDITIONS.

NOTE: All bids should be returned with the bid number and bid opening date indicated on the outside of the envelope submitted to the Purchasing Department.

INVITATION TO BID FROM JEFFERSON PARISH - continued

BID NO.: 50-00095662

SEALED BID

ITEM NUMBER	QUANTITY	U/M	DESCRIPTION OF ARTICLES	UNIT PRICE QUOTED	TOTALS
1	1	JOB	<p>LABOR, MATERIALS AND EQUIPMENT NECESSARY TO FURNISH & INSTALL A 2000 KW GENERATOR & RELATED APPURTENANCES AT BRIDGE CITY WASTEWATER TREATMENT PLANT FOR JEFFERSON PARISH DEPT. OF PUBLIC WORKS, SEWERAGE</p>		
			<p>0010 - Generators, Stationary Type</p> <p>LABOR, MATERIALS AND EQUIPMENT NECESSARY TO FURNISH & INSTALL A 2000 KW GENERATOR SET AND A 3000 AMP/600 VOLT AUTOMATIC TRANSFER SWITCH TO REPLACE EXISTING EQUIPMENT AT THE BRIDGE CITY WASTEWATER TREATMENT PLANT AS PER THE ATTACHED SPECIFICATIONS.</p> <p>*** MANDATORY PRE-BID CONFERENCE ***</p> <p>A MANDATORY PRE-BID CONFERENCE WILL BE HELD: TIME: 9:30 A.M. DATE: TUESDAY, NOVEMBER 10, 2009 LOCATION: BRIDGE CITY WASTEWATER TREATMENT PLANT 1400 U.S. HIGHWAY 90 WEST BRIDGE CITY, LA 70094 (FOR DIRECTIONS: 504-731-4490)</p> <p>VENDORS MUST ATTEND THE PRE-BID CONFERENCE MEETING AND SIGN THE SIGN-IN SHEET OR THEIR BID WILL NOT BE ACCEPTED.</p> <p>A LOUISIANA STATE CONTRACTOR'S LICENSE IS REQUIRED: CATEGORY of ELECTRICAL WORK or SPECIALTY of INSTALLATION OF EQUIPMENT, MACHINERY and ENGINES</p> <p>LICENSE NUMBER IS TO BE PUT ON THE OUTSIDE OF THE BID ENVELOPE.</p>		

CORPORATE RESOLUTION

EXCERPT FROM MINUTES OF MEETING OF THE BOARD OF DIRECTORS OF

 INCORPORATED.

AT THE MEETING OF DIRECTORS OF _____
 INCORPORATED, DULY NOTICED AND HELD ON _____,
 A QUORUM BEING THERE PRESENT, ON MOTION DULY MADE AND SECONDED. IT
 WAS:

RESOLVED. THAT _____, BE AND IS HEREBY
 APPOINTED, CONSTITUTED AND DESIGNATED AS AGENT AND ATTORNEY-IN-
 FACT OF THE CORPORATION WITH FULL POWER AND AUTHORITY TO ACT ON
 BEHALF OF THIS CORPORATION IN ALL NEGOTIATIONS, BIDDING, CONCERNS
 AND TRANSACTIONS WITH THE PARISH OF JEFFERSON OR ANY OF ITS AGENCIES,
 DEPARTMENTS, EMPLOYEES OR AGENTS, INCLUDING BUT NOT LIMITED TO, THE
 EXECUTION OF ALL BIDS, PAPERS, DOCUMENTS, AFFIDAVITS, BONDS, SURETIES,
 CONTRACTS AND ACTS AND TO RECEIVE AND RECEIPT THEREFOR ALL
 PURCHASE ORDERS AND NOTICES ISSUED PURSUANT TO THE PROVISIONS OF
 ANY SUCH BID OR CONTRACT, THIS CORPORATION HEREBY RATIFYING,
 APPROVING, CONFIRMING, AND ACCEPTING EACH AND EVERY SUCH ACT
 PERFORMED BY SAID AGENT AND ATTORNEY-IN-FACT.

I HEREBY CERTIFY THE FOREGOING TO BE
 A TRUE AND CORRECT COPY OF AN
 EXCERPT OF THE MINUTES OF THE
 ABOVE DATED MEETING OF THE BOARD
 OF DIRECTORS OF SAID CORPORATION,
 AND THE SAME HAS NOT BEEN
 REVOKED OR RESCINDED.

SECRETARY-TREASURER

DATE

A F F I D A V I T

STATE OF LOUISIANA
PARISH OF JEFFERSON

BEFORE ME, THE UNDERSIGNED AUTHORITY, PERSONALLY CAME AND APPEARED _____, WHO AFTER BEING BY ME DULY SWORN, DEPOSED AND SAID THAT HE IS THE FULLY AUTHORIZED _____ OF _____ (HEREIN AFTER REFERRED TO AS BIDDER) THE PARTY WHO SUBMITTED A BID FOR _____, BID NO. _____ AND SAID AFFIANT FURTHER SAID:

- 1) That bidder employed no person, corporation, firm, association or other organization, either directly or indirectly, to secure the public contract under which he received payment, other than persons regularly employed by the bidder whose services in connection with the construction of the public building or project or in securing the public contract were in the regular course of their duties for bidder; and
- 2) That no part of the contract price received by bidder was paid or will be paid to any person, corporation, firm, association, or other organization for soliciting the contract, other than the payment of their normal compensation to persons regularly employed by the bidder whose services in connection with the construction of the public building or project were in the regular course of their duties for bidder.
- 3) Said bid is genuine and the bidder has not colluded, conspired or agreed directly or indirectly with any other bidder to offer a sham or collusive bid.
- 4) Said bidder has not in any manner, directly or indirectly, agreed with any other person to fix the bid price of affiant or any other bidder, or to fix any overhead, profit or cost element of said bid price, or that of any other bidder, or to induce any other person to refrain from bidding.
- 5) Said bidder is not intended to secure an unfair advantage or benefit from the Parish of Jefferson or in favor of any person interested in the proposed contract.

SWORN TO AND SUBSCRIBED
BEFORE ME THIS _____
DAY OF _____, 20____

NOTARY PUBLIC

INSURANCE REQUIREMENTS

All insurance requirements shall conform to Jefferson Parish Resolution No. 105529 or No. 105530 dated 05/17/2006.

The contractor shall not commence work under this contract until he has obtained all insurance and complied with the requirements of the specifications and Resolution No. 105529 or No. 105530.

WORKER'S COMPENSATION INSURANCE

As required by Louisiana State Statute, exception; Employer's Liability, Section B shall be \$1,000,000 per occurrence when Work is to be over water and involves maritime exposures to cover all employees not covered under the State Worker's Compensation Act, otherwise this limit shall be no less than \$500,000 per occurrence.

COMMERCIAL GENERAL LIABILITY

Shall provide limits not less than the following: \$1,000,000.00 Combined Single Limit per Occurrence for bodily injury and property damage.

COMPREHENSIVE AUTOMOBILE LIABILITY

Bodily injury liability \$1,000,000.00 each person; \$1,000,000.00 each occurrence.
Property Damage Liability \$1,000,000.00 each occurrence.

DEDUCTIBLES

No insurance required shall include a deductible not greater than \$10,000.00. The cost of the deductible be borne by the contractor.

UMBRELLA LIABILITY COVERAGE

An umbrella policy or excess may be used to meet minimum requirements.

CONSTRUCTION AND RENOVATION PROJECTS REQUIRE THE FOLLOWING:

OWNER'S PROTECTIVE LIABILITY

To be for the same limits of liability for bodily injury and property damage liability established for commercial general liability.

BUILDER'S RISK INSURANCE

The contractor shall maintain Builder's Risk Insurance at his own expense to insure both the owner (Parish of Jefferson) and contractor as their interest may appear.

Emergency/Standby Power System

PURPOSE: The Department of Sewerage for Jefferson Parish is seeking to purchase and have installed a new 2000 Kw. Generator set and a 3000 amp/600 volt automatic transfer switch to replace equipment at Bridge City Wastewater Treatment Plant. The generator and transfer equipment shall be capable of furnishing emergency standby power requirements for the existing Bridge City Wastewater Treatment Plant in the event of a loss of commercial power.

This installation will require an outside neutral service for fire department. Bidder will be expected to provide and install as part of this bid.

As part of this bid process the successful vendor will be required to disconnect, remove and deliver the existing equipment to the parish's surplus yard on David Drive.

Section 1.0: General Requirements

1.0 Scope:

A) Provide a complete new factory assembled generator set equipment with digital electronic generator set, controls, digital governor and digital voltage regulator. **Microprocessor Based preferred or equal.**

B) Include automatic transfer switch devices, equipment and accessories specified herein or required for the service. The new generator and transfer switch will replace the existing generator and transfer switch that currently exists. All equipment must fit in the existing footprint of the current equipment. Drawings will be provided as needed. Equipment shall be new, factory tested, and delivered ready for installation. **Prototype equipment is not acceptable.**

C) The generator set manufacturer shall warrant all equipment provided whether or not it is manufactured by the generator set manufacturer, so as to have only one source for warranty and product service. Only technicians specifically trained and certified by the manufacturer shall install, support and service the equipment during the warranty period.

D) The generator set supplier shall be responsible for complete compliance to all specification requirements for both the generator and the paralleling equipment.

1.0.1 Approved Manufacturers:

Equipment specifications for this project are based on generator sets manufactured by Cummins Power Generation. Equipment submitted as part of this bid that meets the requirements and/or is determined equal by a parish selected consultant is acceptable. Or equal is an acceptable provided they meet all of the specifications and requirements detailed below.

The Parish of Jefferson reserves the right to select the product it deems best serves its best interest when after a review by a parish selected consultant deems product complies with the specifications or equal.

Submittals as equal; Bid proposals must include line by line compliance statement based on this specifications.

1.1 Submittals:

As a minimum for all equipment specified 4 each:

- a) Specification and data sheets.
- b) Manufacturer's certification of prototype testing.
- c) Manufacturer's published warranty documents.
- d) Shop drawings showing plan and elevation views with certified overall and interconnection point dimensions.
- e) Interconnection wiring diagrams showing all external connections required; with field wiring terminals marked in a consistent point-to-point manner.
- f) Submit names, experience level, training certifications, and locations for Technicians that will be responsible for installing and servicing at site.

Warranty: A no deductible warranty shall be provided, **by the manufacturer**, for all products listed in this section. They shall be warranted against defects in materials and workmanship for a **period of 48 months** from the date of initial system start-up at site and acceptance of load bank test by the parish. The manufacturer's warranty shall be comprehensive and cover all parts, labor, travel time, and mileage charges, with the exception of consumable items, such as filters, belts, hoses, etc.

The Manufacturer shall warranty the material/product provide in this bid (generator, engine, automatic switch and accessories) install and workmanship for a **minimum of 48 months** for onsite start up and after successful and accepted load bank test result are accepted by the parish.

1.3 Codes and Standards

The generator set and its installation and on-site testing shall conform to the requirements of the following codes and standards:

CSA C22.2, No. 14 – M91 Industrial Control Equipment.

CSA 282, 1989 Emergency Electrical Power Supply for Buildings

EN50082-2, Electromagnetic Compatibility – Generic Immunity Requirements, Part 2: Industrial.

EN55011, Limits and Methods of Measurement of Radio Interference Characteristics of Industrial, Scientific and Medical Equipment.

FCC Part 15, Subpart B.

IEC8528 part 4. Control Systems for Generator Sets

IEC Std 801.2, 801.3, and 801.5 for susceptibility, conducted, and radiated electromagnetic emissions.

IEEE446 – Recommended Practice for Emergency and Standby Power Systems for Commercial and Industrial Applications

IEEE587 for voltage surge resistance.

Mil Std 461D –1993. Military Standard, Electromagnetic Interference Characteristics.

Mil STD 462D - 1993. Military Standard, Measurement of Electromagnetic Interference Characteristics.

NEMA ICS10-1993 – AC Generator sets.

NFPA70 – National Electrical Code. Equipment shall be suitable for use in systems in compliance to Article 700, 701, and 702.

NFPA99 – Essential Electrical Systems for Health Care Facilities

NFPA110 – Emergency and Standby Power Systems. The generator set shall meet all requirements for Level 1 systems. Level 1 prototype tests required by this standard shall have been performed on a complete and functional unit, component level type tests will not substitute for this requirement.

UL508. The entire control system of the generator set shall be UL508 listed and labeled.

UL2200. The genset shall be listed to UL2200 or submit to an independent third party certification process to verify compliance as installed.

The generator set manufacturer shall be certified to ISO 9001 International Quality Standard and shall have third party certification verifying quality assurance in design/development, production, installation, and service, in accordance with ISO 9001.

- 1.4 Manufacturers' Requirements: Single manufacturer responsibility is mandatory for complete engine-generator sets, automatic transfer gear, including manufacturing of engine and the alternator, building of set, manufacturing of the automatic transfer gear, factory test, factory warranty, & shipping. To be classified as a manufacturer, the builder of the generating set must manufacture the engine and the alternator (generator), and it must be built at the Manufacturing Plant. Coordination between manufacturer, service firm, & installer is mandatory.

The manufacturer shall have printed literature & brochures describing the standard series offered (not a one of a kind fabrication). The manufacturer shall furnish schematic & wiring diagrams for the engine/alternator sets, transfer switches, and switchgear equipment. Sets not factory assembled as a standard model with all controls, alternator, & engine, and tested together, as a system, **will not be acceptable**.

- 1.5 Single Supplier:

The supplier shall be the manufacturer's authorized distributor, who has served in this capacity for the last ten (10) years, and is located no more than a one (1) hour drive from the service site. The supplier shall provide initial start-up services, conduct field acceptance testing, and warranty service on all of the equipment specified herein. The supplier shall have 24-hour service availability and factory-trained service technicians authorized to do warranty service on all warrantable products, and maintain stock of standard spare parts **including 80%** of the engine parts.

Section 2.0: Diesel Engine-Generator Sets

- 2.1 Diesel Engine-Generator Sets: U.L. 2200 listed One (1) Cummins model DQKAB diesel engine generator set rated **or equal** to supply 2000 KW, without de-rating, at a continuous

standby rating, based upon an altitude of 500 feet, and ambient temperatures up to 104 degrees F., 277/480 volt, three phase, 60 hertz, and 1800 rpm.

The generator sets shall include inherent over current, short circuit and overload protection, digital and analog AC metering equipment, sensor failure detection, and remote monitoring and control capability. **No exceptions or deviations to these requirements will be permitted.**

2.1.1 Performance:

Voltage regulation shall be +/- 0.5 percent for any constant load between no load and rated load.

Frequency regulation shall be isochronous from steady state no load to steady state rated load. Random frequency variation with any steady load from no load to full load shall not exceed plus or minus 0.25%.

The diesel engine-generator set shall be capable of single step load pick up of 100% nameplate kW and power factor, less applicable de-rating factors, with the engine-generator set at operating temperature.

The motor starting capability, of the 2000 KW generator set, shall be a minimum of 2300 KVA @ 20% Voltage dip and a maximum surge power of 2125 kW. The generator sets shall be capable of sustaining a minimum of 90% of rated no load voltage with the specified KVA load at near zero power factor applied to the generator set.

Engine: The engines shall be diesel, 4 cycles, and certified to Tier 2, U.S. Non-road Source Emission Standards, and CFR 40. The engine on the 2000 KW shall have 16 cylinders, a minimum displacement of 3673 cubic inches and minimum brake horsepower of 2922. It shall have the following accessories and features.

An electronic governor system shall provide automatic isochronous frequency regulation. The governing system dynamic capabilities shall be controlled as a function of engine coolant temperature to provide fast, stable operation at varying engine operating temperature conditions. The control system shall actively control the fuel rate and excitation as appropriate to the state of the generator set. Fuel rate shall be regulated as a function of starting, accelerating to start disconnect speed, accelerating to rated speed, and operating in various isochronous or parallel states. The engine governing system shall not utilize any exposed operating linkage.

The engine shall be cooled by a unit-mounted closed loop radiator system rated for full rated load operation in 104 degrees F (40 degrees C) ambient condition with the ambient temperature as measured at the generator air inlet. Radiators shall be provided with a duct adapter flange. The cooling system shall be filled with 50/50 ethylene glycol/water mixture by the equipment supplier. Rotating parts shall be guarded against accidental contact.

An electric starter(s) capable of three complete cranking cycles without overheating. Positive displacement, mechanical, full pressure, lubrication oil pump. Full flow lubrication oil filters with replaceable spin-on canister elements and dipstick oil level indicator.

An engine driven, mechanical, positive displacement fuel pump. Fuel filter with replaceable spin-on canister element. Flexible supply and return fuel lines.

Replaceable dry element air cleaner with restriction indicator.

Engine mounted battery charging alternator, 40 ampere minimum, and solid-state voltage regulator.

- 2.1.2 AC Generator: The AC generator shall be; synchronous, four pole, 2/3 pitch, revolving field, drip-proof construction, single pre-lubricated sealed bearing, air cooled by a direct drive centrifugal blower fan, and directly connected to the engine with flexible drive disc.

The 2000 KW generator shall be capable of a minimum of 2048 KW at a 105 degree C. rise rating.

All insulation system components shall meet NEMA MG1 temperature limits for Class H insulation system. Actual temperature rise measured by resistance method at full load shall not exceed 80 degrees centigrade.

The generator shall be capable of delivering rated output (KVA) at rated frequency and power factor, at any voltage not more than 5 percent above or below rated voltage.

A permanent magnet generator (PMG) shall be included to provide a reliable source of excitation power for optimum motor starting and short circuit performance. The PMG and controls shall be capable of sustaining and regulating current supplied to a single phase or three phase fault at approximately 300% of rated current for not more than 10 seconds.

- 2.1.3 Engine-Generator Set Control:

The generator set shall be provided with a microprocessor-based control system which is designed to provide automatic starting, monitoring, and control functions for the generator set. The control system shall also be designed to allow local monitoring and control of the generator set, and remote monitoring and control as described in this specification. The control shall be mounted at the location shown on the project drawings for medium voltage applications, and on the generator set for 600 volt and lower applications. When mounted on the generator set the control shall be vibration isolated and prototype tested to verify the durability of all components in the system under the vibration conditions encountered. The control shall be UL508 labeled, CSA282-M1989 certified, and meet IEC8528 part 4. All switches, lamps and meters shall be oil-tight and dust-tight, and the enclosure door shall be gasketed. There shall be no exposed points in the control (with the door open) that operate in excess of 50 volts. The controls shall meet or exceed the requirements of Mil-Std 461C part 9, and IEC Std 801.2, 801.3., and 801.5 for susceptibility, conducted, and radiated electromagnetic emissions. The entire control shall be tested and meet the requirements of IEEE587 for voltage surge resistance.

The generator set mounted control shall include the following features and functions:

Three position control switch labeled RUN/OFF/AUTO. In the RUN position the generator set shall automatically start, and accelerate to rated speed and voltage. In the OFF position the generator set shall immediately stop, bypassing all time delays. In the AUTO position the generator set shall be ready to accept a signal from a remote device to start and accelerate to rated speed and voltage.

Red "mushroom-head" push-button EMERGENCY STOP switch shall cause the generator set to immediately shut down, and be locked out from automatic restarting.

Push-button RESET switch. The RESET switch shall be used to clear a fault and allow restarting the generator set after it has shut down for any fault condition. Push-button PANEL LAMP switch. Depressing the panel lamp switch shall cause the entire panel to be lighted with DC control power. The panel lamps shall automatically be switched off 10 minutes after the switch is depressed, or after the switch is depressed a second time.

Generator Set AC Output Metering: The generator set shall be provided with both an analog and digital metering set with the following features and functions:

Color coded analog bar graph metering shall be provided to include voltmeter, ammeter, frequency meter, and kilowatt (KW) meter. These meters shall be color coded in the following fashion: readings from 0-90% of generator set standby rating: green; readings from 90-100% of standby rating: amber; readings in excess of 100%: red.

Digital metering set, 0.5% accuracy, to indicate generator RMS voltage and current, frequency, output current, output KW, KW-hours, and power factor. Generator output voltage shall be available in line-to-line and line-to-neutral voltages, and shall display all three phase voltages (line to neutral or line to line) simultaneously

Generator Set Alarm and Status Message Display: The generator set shall be provided with alarm and status indicating lamps to indicate non-automatic generator status, and existing alarm and shutdown conditions. The lamps shall be high-intensity LED type. The lamp condition shall be clearly apparent under bright room lighting conditions. The generator set control shall indicate the existence of the following alarm and shutdown conditions on a digital display panel:

- low oil pressure (alarm)
- low oil pressure (shutdown)
- oil pressure sender failure (alarm)
- low coolant temperature (alarm)
- high coolant temperature (alarm)
- high coolant temperature (shutdown)
- engine temperature sender failure (alarm)
- low coolant level (alarm or shutdown--selectable)
- fail to crank (shutdown)
- over crank (shutdown)
- over speed (shutdown)
- low DC voltage (alarm)
- high DC voltage (alarm)
- weak battery (alarm)
- low fuel-daytank (alarm)
- high AC voltage (shutdown)
- low AC voltage (shutdown)
- under frequency (shutdown)
- over current (warning)
- over current (shutdown)
- short circuit (shutdown)
- ground fault (alarm)
- over load (alarm)
- emergency stop (shutdown)

In addition, provisions shall be made for indication of two customer-specified alarm or shutdown conditions. Labeling of the customer-specified alarm or shutdown conditions shall be of the same type and quality as the above specified conditions. The non-automatic indicating lamp shall be red, and shall flash to indicate that the generator set is not able to automatically respond to a command to start from a remote location.

Engine Status Monitoring:

The following information shall be available from a digital status panel on the generator set control:

- engine oil pressure (psi or kPA)
- engine coolant temperature (degrees F or C; Both left and right bank temperature shall be indicated on V-block engines.)
- engine oil temperature (degrees F or C)
- engine speed (rpm)
- number of hours of operation (hours)
- number of start attempts
- battery voltage (DC volts)

Control Functions:

The control system provided shall include a cycle cranking system, which allows for user selected crank time, rest time, and # of cycles. Initial settings shall be for 3 cranking periods of 15 seconds each, with 15 second rest period between cranking periods.

The control system shall include an engine governor control, which functions to provide steady state frequency regulation as noted elsewhere in this specification. The governor control shall include adjustments for gain, damping, and a ramping function to control engine speed and limit exhaust smoke while the unit is starting. The governor control shall be suitable for use in paralleling applications without component changes.

The control system shall include time delay start (adjustable 0-300 seconds) and time delay stop (adjustable 0-600 seconds) functions.

The control system shall include sender failure monitoring logic for speed sensing, oil pressure, and engine temperature which is capable of discriminating between failed sender or wiring components, and an actual failure conditions.

The control system shall include a ground fault monitoring relay. The relay shall be adjustable from 100-1200 amps, and include adjustable time delay of 0-1.0 seconds. The relay shall be for indication only and not trip or shut down the generator set. Note bonding and grounding requirements for the generator set, and provide relay which will function correctly in system as installed.

Alternator Control Functions:

The generator set shall include an automatic voltage regulation system which is match and prototype tested with the governing system provided. It shall be immune from mis-operation due to load-induced voltage waveform distortion and provide a pulse width modulated output to the alternator exciter. The voltage regulation system shall be equipped with three-phase RMS sensing and shall control buildup of AC generator voltage to provide a linear rise and limit overshoot. The system shall include a torque-matching characteristic, which shall reduce output voltage in proportion to frequency below a threshold of [58-59] HZ. The voltage regulator shall include adjustments for gain, damping, and frequency roll-off. The voltage regulation system shall include provisions for reactive load sharing and electronic voltage matching for paralleling applications. Motorized voltage adjust pot is not acceptable for voltage matching.

Controls shall be provided to monitor the output current of the generator set and initiate an alarm when load current exceeds 110% of the rated current of the generator set on any

phase for more than 60 seconds. The controls shall shut down and lock out the generator set when output current level approaches the thermal damage point of the alternator.

Controls shall be provided to monitor the KW load on the generator set, and initiate an alarm condition when total load on the generator set exceeds the generator set rating for in excess of 5 seconds.

Controls shall include a load shed control, to operate a set of dry contacts (for use in shedding customer load devices) when the generator set is overloaded. An AC over/under voltage monitoring system which responds only to true RMS voltage conditions shall be provided. The system shall initiate shutdown of the generator set when alternator output voltage exceeds 110% of the operator-set voltage level for more than 10 seconds, or with no intentional delay when voltage exceeds 130%. Under voltage shutdown shall occur when the output voltage of the alternator is less than 85% for more than 10 seconds.

Control Interfaces for Remote Monitoring: All control and interconnection points from the generator set to remote components shall be brought to a separate connection box. No field connections shall be made in the control enclosure or in the AC power output enclosure. Provide the following features in the control system:

Form "C" dry common alarm contact set rated 2A @ 30VDC to indicate existence of any alarm or shutdown condition on the generator set.

One set of contacts rated 2A @ 30VDC to indicate generator set is ready to load. The contacts shall operate when voltage and frequency are greater than 90% of rated condition.

A fused 10 amp switched 24VDC power supply circuit shall be provided for customer use. DC power shall be available from this circuit whenever the generator set is running.

A fused 20 amp 24VDC power supply circuit shall be provided for customer use. DC power shall be available from this circuit at all times from the engine starting/control batteries.

The control shall be provided with provisions for connection of remote monitoring equipment as described herein or shown on the drawings.

2.1.4 A battery monitoring system shall be provided to load test the battery bank each time the engine starts and a "weak battery" alarm shall be initiated, when starting voltage drop is outside of normal limits. Systems that do not measure voltage drop across the battery bank each time the engine starts are not acceptable.

2.1.5 Base: The engine-generator set shall be mounted on a heavy duty steel base to maintain alignment between components. The base shall incorporate a battery tray with hold-down clamps within the rails.

2.1.6 Generator Set Auxiliary Equipment and Accessories:

Coolant heater: Engine mounted, thermostatically controlled, coolant heater(s) for each engine. Heater voltage shall be as shown on the project drawings. The coolant heater shall be UL499 listed and labeled.

The coolant heater shall be installed on the engine with silicone hose connections. Steel tubing shall be used for connections into the engine coolant system wherever the length of pipe run exceeds 12 inches. The coolant heater installation shall be specifically

designed to provide proper venting of the system. The coolant heaters shall be installed using quick disconnect couplers to isolate the heater for replacement of the heater element. The quick disconnect/automatic sealing couplers shall allow the heater element to be replaced without draining the engine cooling system or significant coolant loss. The coolant heater shall be provided with a 24VDC thermostat, installed at the engine thermostat housing. An AC power connection box shall be provided for a single AC power connection to the coolant heater system. The contractor shall provide branch circuit to heaters.

The coolant heater(s) shall be sized as recommended by the engine manufacturer to warm the engine to a minimum of 100F (40C) in a 40F ambient, in compliance with NFPA110 requirements, or the temperature required for starting and load pickup requirements of this specification.

Starting and Control Batteries: Starting battery bank, for each generator, shall be calcium/lead antimony type, 24 volt DC, sized as recommended by the engine manufacturer, complete with battery cables and connectors.

Battery Charger: A UL listed/CSA certified 12 amp voltage regulated battery charger shall be provided for each engine-generator set. The charger may be located in an automatic transfer switch, or may be wall mounted if the generator is located indoors. Input AC voltage and DC output voltage shall be as required. Chargers shall be equipped with float, taper and equalize charge settings. Operational monitors shall provide visual output along with individual form C contacts rated at 4 amps, 120 VAC, 30VDC for remote indication of:

- Loss of AC power - red light
- Low battery voltage - red light
- High battery voltage - red light
- Power ON - green light (no relay contact)

Analog DC ammeter, 12 hour equalize charge timer, AC and DC fuses shall also be provided on the charger.

Remote Annunciator: Provide and install a 20-light LED remote alarm annunciator, for each generator set, located as shown on the drawings or in a location which can be conveniently monitored by facility personnel. The remote annunciator shall provide all the audible and visual alarms called for by NFPA Standard 110 for level 1 system; and in addition shall provide indications for high battery voltage, low battery voltage, loss of normal power to the charger. Spare lamps shall be provided to allow future addition of other alarm and status functions to the annunciator. Provisions for labeling of the annunciator in a fashion consistent with the specified functions shall be provided. Alarm silence and lamp test switch(s) shall be provided. LED lamps shall be replaceable, and indicating lamp color shall be capable of changes needed for specific application requirements. Alarm horn shall be switchable for all annunciation points. Alarm horn (when switched on) shall sound for first fault, and all subsequent faults, regardless of whether first fault has been cleared, in compliance with NFPA110 3-5.6.2.

Sound Attenuated Outdoor Weather-Protective Housing: The generator set shall be provided with a sound attenuated weather protective housing which allows the generator set to operate at full rated load in the ambient conditions previously specified. The enclosure shall be rated to reduce the noise level by 25 dba @ 23'.

The enclosure shall include hinged doors for access to both sides of the engine and alternator, and the control equipment. Key-locking and pad lockable door latches shall be provided for all doors. Door hinges shall be stainless steel.

The enclosure shall provide a fully weatherized outer covering of entire Generator set with detachable side panels for full engine and alternator access for servicing and repairs. All panels shall be equipped with lock and locking devices.

The enclosure shall be provided with a critical grade exhaust silencer mounted inside of the enclosure. Mounting of the muffler outside of the enclosure will not be allowed. All sheet metal shall be primed for corrosion protection and finish painted with the manufacturer's standard color. All surfaces of all metal parts shall be primed and electro statically or powder coated.

Fasteners used shall be corrosion resistant, and designed to minimize marring of the painted surface when removed for normal installation or service work. The enclosure shall be anchored to the sub-base fuel tank, prior to shipment.

Provide spring vibration isolators, installed between the engine-generator set and sub-base diesel fuel storage tank, quantity as recommended by the generator set manufacturer. Isolators shall include seismic restraints if required by site location. In addition, please provide pad isolators between the fuel tank and foundation.

Diesel fuel storage, sub-base day tank: The generator shall be supplied with a sub-base diesel fuel storage tank with **a minimum capacity 3500 gallons or/and the storage capacity capable of containing and supplying fuel to operate generator running at 100% capacity full load for not less than 30 hours, which ever is greater.** The fuel tanks shall be U.L. 142 listed, double wall type and include low fuel level and internal tank leak detection alarm switches wired to the generator set control panel. Fuel tank shall be provide with a minimum of at least one access panel to interior section of tank for inspection, clearing and access to any internal inline systems. Fuel tank shall be provided with an at least one tank drain valve to allow the removal of water, sediments and other foreign bodies.

The complete generator package, which includes the generator set, housing, and sub-base diesel fuel tank, shall be U.L. 2200 listed and labeled as a complete package. The U.L. 2200 listing on just the generator set does not meet this specification, and will not be accepted.

The generator set shall be inherently self-protecting. The inherent protection device shall also be U.L. listed as over current protection. **Supply Cummins AmpSentry**, or approved equal. The supplier shall submit time over current characteristic curves and thermal damage curve for the alternator, demonstrating the effectiveness of the protection provided.

Space heaters: A 120 volt, generator space heater and control panel space heater shall be provided. The heaters shall be sized as recommended by the equipment supplier. The contractor shall provide branch circuit to the heater.

- 2.2 **Transfer Switch Equipment:** Provide complete factory assembled power transfer equipment with field programmable digital electronic controls designed for fully automatic operation and including: surge voltage isolation, voltage sensors on all phases of sources, positive mechanical and electrical interlocking, and mechanically held contacts for both sources.

The transfer switch shall be **warranted for a 48 month period from the substantial completion date or acceptance of the project.**

The transfer switch and accessories shall be UL listed and labeled, tested per UL Standard 1008, and CSA Approved.

- 2.2.1 Ratings: Provide a **3000 amp** automatic transfer switch, 3 phases, 3 poles with a solid neutral. Main contacts shall be rated for 600 Volts AC minimum.

Transfer switches shall be rated to carry 100 percent of rated current continuously in the Nema 3R enclosure. Circuit breaker type transfer switches do not meet this specification.

Transfer switches shall be continuously rated in ambient temperatures of -40 to +50 degrees C, relative humidity up to 95% (non-condensing), and altitudes up to 10,000 feet.

2.2.2 Construction:

Operator Panel. Each transfer switch shall be provided with a control panel to allow the operator to view the status and control operation of the transfer switch. The operator panel shall be a sealed membrane panel rated NEMA 3R/IP53 or better (regardless of enclosure rating) that is permanently labeled for switch and control functions. The operator panel shall be provided with the following features and capabilities.

High intensity LED lamps to indicate the source that the load is connected to (source 1 or source 2); and which source(s) are available. Source available LED indicators shall operate from the control microprocessor to indicate the true condition of the sources as sensed by the control.

High intensity LED lamps to indicate that the transfer switch is "not in auto" (due to control being disabled or due to bypass switch (when used) enabled or in operation) and "Test/Exercise Active" to indicate that the control system is testing or exercising the generator set.

"OVERRIDE" pushbutton to cause the transfer switch to bypass any active time delays for start, transfer, and retransfer and immediately proceed with its next logical operation.

"TEST" pushbutton to initiate a preprogrammed test sequence for the generator set and transfer switch. The transfer switch shall be programmable for test with load or test without load.

"RESET/LAMP TEST" pushbuttons that will clear any faults present in the control, or simultaneously test all lamps on the panel by lighting them.

The control system shall continuously log information on the number of hours each source has been connected to the load, the number of times transferred, and the total number of times each source has failed. This information shall be available via an operator display panel.

Security Key Switch to allow the user to inhibit adjustments, manual operation or testing of the transfer switches unless key is in place and operated.

Control shall be designed for a high level of immunity to power line surges and transients, demonstrated by test to IEEE Standard 587-1980. The control shall have optically isolated logic inputs, high isolation transformers for AC inputs, and relays on all outputs.

Under voltage sensors shall simultaneously monitor all phases of the normal source. Pick-up and drop-out settings shall be adjustable. Voltage sensors shall allow for adjustment to sense partial loss of voltage on any phase. Voltage sensors shall have field calibration of actual supply voltage to nominal system voltage.

Automatic controls shall signal the engine-generator set to start upon signal from normal source sensors. Solid-state time delay start, adjustable from 0 to 5 seconds (factory set at 2 seconds) shall avoid nuisance start-ups. Battery voltage starting contacts shall be gold, dry type contacts factory wired to a field wiring terminal block.

The switch shall transfer when the emergency source reaches the set point voltage and frequency. Provide a time delay on transfer, adjustable from 0 to 120 seconds.

The switch shall retransfer the load to the normal source after a time delay retransfer, adjustable from 0 to 30 minutes. Retransfer time delay shall be immediately bypassed if the emergency power source fails.

Controls shall signal the engine-generator set to stop after a time delay, adjustable from 0 to 10 minutes, beginning on return to the normal source.

Power for transfer operation shall be from the source to which the load is being transferred. Transfer switch shall be provided with a solid state exerciser clock to set the day, time, and duration of generator set exercise/test period. Provide a with/without load selector switch for the exercise period.

Section 3.0:

3.1 Factory Tests:

Generator set factory tests on the equipment to be shipped, shall be performed at rated load and .8 PF. Generator sets that have not been factory tested at rated PF will not be acceptable. Tests shall include: run at full load, maximum power, voltage regulation, transient and steady-state governing, single step load pickup, and safety shutdowns.

Transfer equipment factory tests: Each transfer switch supplied shall be factory tested before shipment. Factory tests shall include a complete functional test of the transfer switch controls, including calibration of the voltage sensors.

Service and Support

The emergency power system, including generator sets, and automatic transfer switches, shall be serviced by a single local service organization that is trained and factory certified in both generator set and automatic transfer switch service. The supplier shall maintain an inventory of critical replacement parts at the local service organization. The service organization shall be on call 24 hours per day, 365 days per year.

3.2 On-Site Acceptance Test:

The complete installation shall be tested for compliance with the specification following completion of all site work. Testing shall be conducted by representatives of the manufacturer, with required fuel supplied by Contractor.

The Department of Sewerage, parish fleet personnel and parish selected Engineer shall be notified in advance and shall have the option to witness the tests. Installation acceptance tests to be conducted on-site shall include testing the local and remote panels, simulate engine shutdowns, conduct a "cold start" test, a two hour full load test using a resistive load bank, and a one step rated load pickup test in accordance with NFPA 110. Demonstrate that the batteries and starting motor are capable of 3 starting

attempts of 15 second cranking at 15 second intervals. If during the load test a shutdown should occur, the cause of the shutdown will be corrected and the 2 hour test restarted.

After 3 unsuccessful on-site start ups, engine run and/or failed load bank test the parish reserves the right to and shall require complete replacement of the equipment at no cost (labor, removal of faulty equipment/replacement equipment and material).

During the load test, record at 30 minute intervals:

- Time of day
- KW
- Voltage and amperes on each phase
- Engine RPM
- Frequency
- Engine coolant temperature
- Oil pressure
- Ambient temperature

At completion of the testing, instruct the owner's personnel in the proper operation and maintenance of the system, and leave the site with the system in a fully operational condition.

Prior to start of active testing, all field connections for wiring, power conductors, and bus bar connections shall be checked for proper tightening torque.

Installation acceptance tests to be conducted on-site shall include a "cold start" test, a two (2) hour full load (resistive) test, and a one step rated load pickup test in accordance with NFPA 110. Provide a resistive load bank and make temporary connections for full load test.

Perform a power failure test on the entire installed system. This test shall be conducted by opening the power supply from the utility service, and observing proper operation of the system for at least 2 hours. Coordinate timing and obtain approval for start of test with vendor/site personnel, Sewerage Department personnel and fleet personnel.

The generator set supplier shall issue a test report documenting the results of testing, and including a complete list of all settings in the control system.

3.3 Training

The equipment supplier shall provide training for the facility operating personnel covering operation and maintenance of the equipment provided. The training program shall be not less than 1 hour in duration and the class size shall be limited to 5 persons. Training date shall be coordinated with the selected representative of Sewerage Department and Fleet Maintenance.

3.4 Service and Support

The generator set supplier shall maintain service parts inventory for the entire power system at a central location which is accessible to the service location 24 hours per day, 365 days per year. The manufacturer of the generator set shall maintain a central parts inventory to support the supplier, covering all the major components of the power system, including engines, alternators, control systems, paralleling electronics and power transfer equipment.

The generator set shall be serviced during the warranty period and when and if needed thereafter by a qualified service organization (local preferred). The supplier shall maintain an inventory of critical power system replacement parts in the local service location. The service organization shall be on call 24 hours per day, 365 days per year. The service organization shall be located within a one (1) hour drive time from the Service Site.

The manufacturer shall maintain model serial number records of each generator set provided for at least 10 years.

3.5 A selector switch shall be provided to switch between voltages for specific job site and receptacles requirements.

3.6 Supplement

A. Receptacles: Gen-set shall be equipped with the following outlets to be wired and provide for:

- 1 – Single phase 20 amps 120v gfi outlet
- 1 – Single phase 30 amps 120v gfi outlet
- 1 – Single phase 30 amps 240v outlet
- 1 – Three phase 50 amps twist lock outlet

Each individual circuit breaker protection for in house accessories if needed.

B. Supplier of the generator set and transfer switch proposed is bid shall provide a minimum of three (3) locations, names, addresses, contract numbers within a 100 mile radius where the same equipment to be provided as part of this bid has been installed and operational for a period of no less than 36 months.

C. Supplier of the generator set and transfer switch shall provide at least three (3) complete sets of service, repair and maintenance and part manuals. One set to Fleet Management, one set to sewerage file and one set to the unit location.

D. Supplier of the generator and transfer switch shall be responsible for the delivery, unloading task at selected site, placement, install and wiring and start up. Delivery site to be selected by the Department of Sewerage. Time and date of delivery and placement to be coordinated between the successful vendor and Sewerage Department Personnel.

E. Prior to any excavation work, the vendor shall locate all existing underground utilities and stake out the existing conditions. Damages to existing utilities by the vendor shall be correct at no charge to the parish.

F. All potential bidders and/or successful vendor shall visit and inspect the site to familiarize themselves with the size, location, existing structural members, wall and partition locations, ceiling furring, etc. and shall take actual measurements on the job so as to properly located conduits, piping, equipment and accessories allowing sufficient space for placement, install and servicing.

G. Successful vendor shall seal all new above or underground conduits after all conduits are installed. Provide weatherproof hubs where applicable.

H. Substitutions: should any substitutions be request and approved by Jefferson Parish, the supplier shall bear responsibility for the installation, coordination costs, which may result from such substitutions.

- I. Pre Bid Conference is **MANDATORY** as part of this bid process.
- J. Successful bidder shall provide all drawings, schematics, installation and adjustment plans, etc. required as a result of the removal of existing equipment and installation of the new proposed equipment prior to receiving an Order to Proceed.
- K. Prototype equipment is not acceptable as part of this bid.
- L. All insurance requirements set forth by the Parish as part of this bid shall be adhered to.

NOTE: A Louisiana State Contractor's License is required in the Category of ELECTRICAL WORK or Specialty of INSTALLATION of EQUIPMENT, MACHINERY and ENGINES.

License number is to be put on the outside of the bid envelope.